

Appendix 2

Percent Identity

	1	2	3	4	5	6	7	
1	■	59.0	65.9	31.5	57.4	28.2	74.5	1
2	53.3	■	80.5	33.9	74.7	30.8	65.3	2
3	41.2	22.1	■	26.8	93.6	22.7	68.2	3
4	140.9	125.1	146.4	■	32.7	53.8	30.7	4
5	55.0	28.9	4.3	135.5	■	31.9	63.3	5
6	149.4	133.7	158.0	64.2	126.9	■	24.8	6
7	23.7	46.4	38.2	143.7	44.8	155.4	■	7
	1	2	3	4	5	6	7	

BB1085 SEQ ID NO:10

BB1085 SEQ ID NO:8

BB1085 SEQ ID NO:12

BB1085 SEQ ID NO:14

BB1085 SEQ ID NO:16

BB1085 SEQ ID NO:18

BB1085 SEQ ID NO:20

Divergence

E

	10	20	30	40	50	60	
1	MGSTTMSPPSFVVLLLL-LLATIAAAGSNMDEEVVDDLQYLIDNSDDIPTNDPDGWPE						BB1085SeqIdNo10
1	H--EEDDAA-----GASAH-----RHLPDF-----DGFEGGAE---D						BB1085SeqIdNo8
1	A--RV-----						BB1085SeqIdNo12
1	-----T-----						BB1085SeqIdNo14
1	M--RILVVLATLLFSSSLFTLCDDLTDD-----EDLGFL-----DEPSAAPE---H						BB1085SeqIdNo16
1	-----ARDHAELLLG-----						BB1085SeqIdNo18
1	-----						BB1085SeqIdNo20

	70	80	90	100	110	120	
60	GDYDDDDLLFQDQDQLTGH-QPEIDETHVVVLAANFSSFLASSHHVMVEF						BB1085SeqIdNo10
29	EDF-GDFSDFEDSDADRDEYKAPVDEKDVVLKEGNFSDFVEKNRFVMVEF						BB1085SeqIdNo8
4	-----						BB1085SeqIdNo12
2	-----						BB1085SeqIdNo14
45	GHYHDDDANFGDFEEDPEAYKQPEVDEKDVVLKEKNFTDTVKSNNRFVMVEF						BB1085SeqIdNo16
12	-----						BB1085SeqIdNo18
1	-----						BB1085SeqIdNo20

	130	140	150	160	170	180	
119	GELPGLSRRRAHLAGSTNQPRPNFAKAKVDAKLTDTLAKKZDVGGFPAIILFEI						BB1085SeqIdNo10
88	GAKPEYAAATELKE-----NVVLAKVDAKLTDTLAKKZDVGGFPAIILFEI						BB1085SeqIdNo8
4	-----						BB1085SeqIdNo12
2	-----						BB1085SeqIdNo14
105	GAKPEYAAATELKE-----DVIKAKVDAKLTDTLAKKZDVGGFPAIILFEI						BB1085SeqIdNo16
20	AQMPRFEEAAALRAMGSA-----VAFKLGGERYPKAKAAAVGVKQETLLFVNQTEHA						BB1085SeqIdNo18
1	-----						BB1085SeqIdNo20

179 INEARTKEAVDWINCKLCEPAVQVVTGDEAQSITGDDRAVAFIDTISCAHSDIYANA BB1085SeqIdNo10
 142 PQORTRKDAVTRWIKKRIICGYNITGVEDERITLHSETKVVAQYVNSLVPEENIYANA BB1085SeqIdNo8
 4 ----- BB1085SeqIdNo12
 2 ----- BB1085SeqIdNo14
 159 INEORUKKALVTVGKRIICGYNLTVEDQQRKNNETKVVFNFNSVSPVEEELIYANA BB1085SeqIdNo16
 76 HGLHAKOALVTVVRKRTGEPHRLQSKDSAEFFKKDMTFVIELFKNEECADHEIFVKA BB1085SeqIdNo18
 1 ----- BB1085SeqIdNo20

239 BRLEPDSIYETQISTPDVAKLQVHDAAAKRRFSVVLLKKKEEKKLTFYDDEKKAQAALGTVSA BB1085SeqIdNo10
 202 SGLRPDANTRQVTVDEEVAKLTHTEASAKRPALVLLKRAKKNNRFOCKKSKSAIAETVFA BB1085SeqIdNo8
 4 ----- BB1085SeqIdNo12
 2 ----- BB1085SeqIdNo14
 219 SRLEEDVNTKQHVDEDDVAKLTHIDPDVKKRPALIVVKKKEEKKLNHDDCKKCKEEDADIVFS BB1085SeqIdNo16
 136 ATTDNEQOVESETRVAKVLPFGITSEEKFGVVKSPKFEKTKCKKDETEILRLVVEL BB1085SeqIdNo18
 1 ----- BB1085SeqIdNo20

299 MKLEPLVTRTQTSRPSIICGNPEKPKKQIILTFVWASETTFIPAPKPAKPPKCKKLLVVFRR BB1085SeqIdNo10
 262 MKLEPLVTRTQTSRPSIICGNPEKPKKQIILTFVWASETTFIPAPKPAKPPKCKKLLVVFRR BB1085SeqIdNo8
 4 ----- BB1085SeqIdNo12
 2 SKFRLEVKKLEMNISRIVYSESEKLLQVAVRANIDDFKNHLETLQDVAKTKRSKIMFIQDDI BB1085SeqIdNo14
 279 MKLEPLVTRTQTSRPSIICGNPEKPKKQIILTFVWASETTFIPAPKPAKPPKCKKLLVVFRR BB1085SeqIdNo16
 196 MKFRLEVKKLEMNISRIVYSESEKLLQVAVRANIDDFKNHLETLQDVAKTKRSKIMFIQDDI BB1085SeqIdNo18
 15 MKFRLEVKKLEMNISRIVYSESEKLLQVAVRANIDDFKNHLETLQDVAKTKRSKIMFIQDDI BB1085SeqIdNo20

[Handwritten mark]

359	DS	EV	CE	EA	AD	Y	T	Q	E	T	Y	A	T	E	N	T	D	A	R	K	F	F	D	D	E	S	E	A	K	D	A	G	T	P	P	BB1085SeqIdNo10
322	D	N	E	V	G	K	P	A	E	G	E	V	E	G	E	V	E	G	E	S	R	K	R	V	A	K	R	V	T	R	T	K	A	E	N	BB1085SeqIdNo8
6	D	N	E	V	G	K	P	A	E	G	E	V	E	G	E	V	E	G	E	S	R	K	R	V	A	K	R	V	T	K	A	E	N	BB1085SeqIdNo12		
62	N	D	E	N	L	A	P	F	L	T	L	E	E	S	K	N	T	V	A	A	F	D	A	M	S	S	Y	L	E	T	K	P	Q	S	N	BB1085SeqIdNo14
339	D	N	E	V	G	K	P	A	E	G	E	V	E	G	E	V	E	G	E	S	R	K	R	V	A	K	R	V	T	K	A	E	N	BB1085SeqIdNo16		
256	A	E	R	N	L	A	P	F	L	T	L	E	E	S	K	N	T	V	A	A	F	D	A	M	S	S	Y	L	E	T	K	P	Q	S	N	BB1085SeqIdNo18
75	D	N	E	V	G	K	P	A	E	G	E	V	E	G	E	V	E	G	E	S	R	K	R	V	A	K	R	V	T	K	A	E	N	BB1085SeqIdNo20		

419	Y	K	S	E	V	P	E	S	N	O	E	D	V	K	V	V	E	K	S	L	Q	T	L	I	D	S	K	R	V	A	K	R	V	T	K	A	E	N	BB1085SeqIdNo10												
382	Y	K	S	E	V	P	E	S	N	O	E	D	V	K	V	V	E	K	S	L	Q	T	L	I	D	S	K	R	V	A	K	R	V	T	K	A	E	N	BB1085SeqIdNo8												
66	Y	K	S	E	V	P	E	S	N	O	E	D	V	K	V	V	E	K	S	L	Q	T	L	I	D	S	K	R	V	A	K	R	V	T	K	A	E	N	BB1085SeqIdNo12												
122	F	K	S	Q	I	D	N	T	E	S	S	H	V	I	V	G	N	N	T	D	E	I	S	S	E	K	T	V	F	T	M	I	N	E	T	S	K	O	V	E	K	A	R	K	Y	BB1085SeqIdNo14					
399	Y	K	S	E	V	P	E	S	N	O	E	D	V	K	V	V	E	K	S	L	Q	T	L	I	D	S	K	R	V	A	K	R	V	T	K	A	E	N	BB1085SeqIdNo16												
316	H	K	S	E	L	Q	E	K	-	L	I	E	K	V	H	T	M	C	V	D	E	I	S	K	N	V	E	I	S	K	N	V	E	I	S	K	N	V	E	I	S	K	N	V	E	K	A	R	K	Y	BB1085SeqIdNo18
135	Y	K	S	E	V	P	E	S	N	O	E	D	V	K	V	V	E	K	S	L	Q	T	L	I	D	S	K	R	V	A	K	R	V	T	K	A	E	N	BB1085SeqIdNo20												

479	S	V	D	S	E	V	P	E	S	N	O	E	D	V	K	V	V	E	K	S	L	Q	T	L	I	D	S	K	R	V	A	K	R	V	T	K	A	E	N	BB1085SeqIdNo10												
442	E	L	D	E	L	V	P	E	S	N	O	E	D	V	K	V	V	E	K	S	L	Q	T	L	I	D	S	K	R	V	A	K	R	V	T	K	A	E	N	BB1085SeqIdNo8												
126	N	D	E	N	L	A	P	F	L	T	L	E	E	S	K	N	T	V	A	A	F	D	A	M	S	S	Y	L	E	T	K	P	Q	S	N	BB1085SeqIdNo12																
182	E	S	S	N	L	I	F	E	R	I	A	S	A	N	E	E	K	L	O	V	N	D	Y	P	T	L	L	R	A	D	D	K	A	-	N	E	K	I	S	K	S	S	L	K	E	A	A	S	N	Y	Y	BB1085SeqIdNo14
459	N	D	E	N	L	A	P	F	L	T	L	E	E	S	K	N	T	V	A	A	F	D	A	M	S	S	Y	L	E	T	K	P	Q	S	N	BB1085SeqIdNo16																
375	E	S	S	N	L	I	F	E	R	I	A	S	V	N	E	E	K	L	O	V	N	D	Y	P	T	L	L	R	A	D	D	K	A	-	N	E	K	I	S	K	S	S	L	K	E	A	A	S	N	Y	Y	BB1085SeqIdNo18
195	E	L	D	E	L	V	P	E	S	N	O	E	D	V	K	V	V	E	K	S	L	Q	T	L	I	D	S	K	R	V	A	K	R	V	T	K	A	E	N	BB1085SeqIdNo20												

	550	560	570	580
539	BTPTALKRQES	--RTESTRAEV	-----KSSSTNS	KKDE
502	BTPTALCRV	SSPKAVS	SEAKCEDAKESP	KSSTTLVKKDE
186	BTPTALCRQES	ST-----	SSPEKSSPAKES	QSSSPVKKDE
241	KVK-----	-----N-----	-----QV-----	-----VKDE
519	BTPTALCRQES	ST-----	SSPAKESPAKES	QSSSPVKKDE
434	Q-----	-----DVEVAPIN	-----	-----VKDE
255	BTPTALCRQES	DESAARTD	EAEGPSTT	QSSSPVKKDE